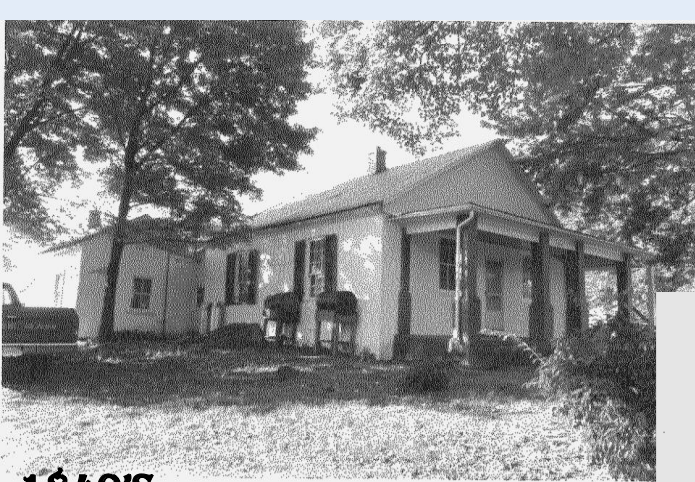


# Concepts for Public Sewer Service in the Lewistown Community

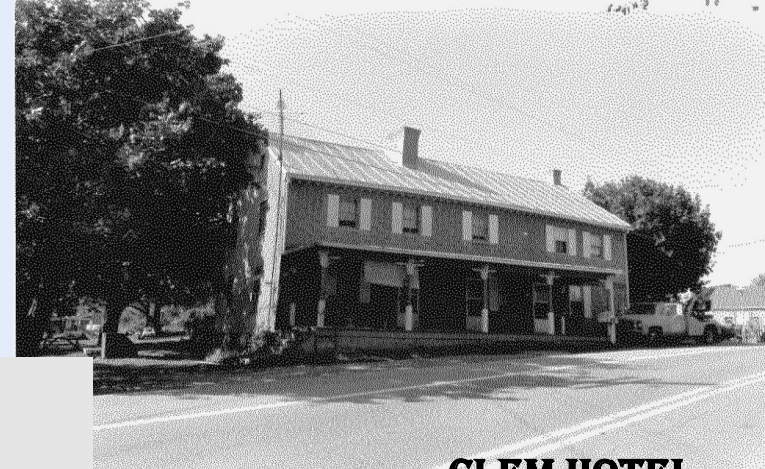
- Frederick County Division of Planning and Permitting
- Frederick County Division of Utilities & Solid Waste Management
- Frederick County Health Department



**1840'S  
SCHOOL HOUSE**



**H&F RAILWAY  
DEPOT. CIRCA  
1910**

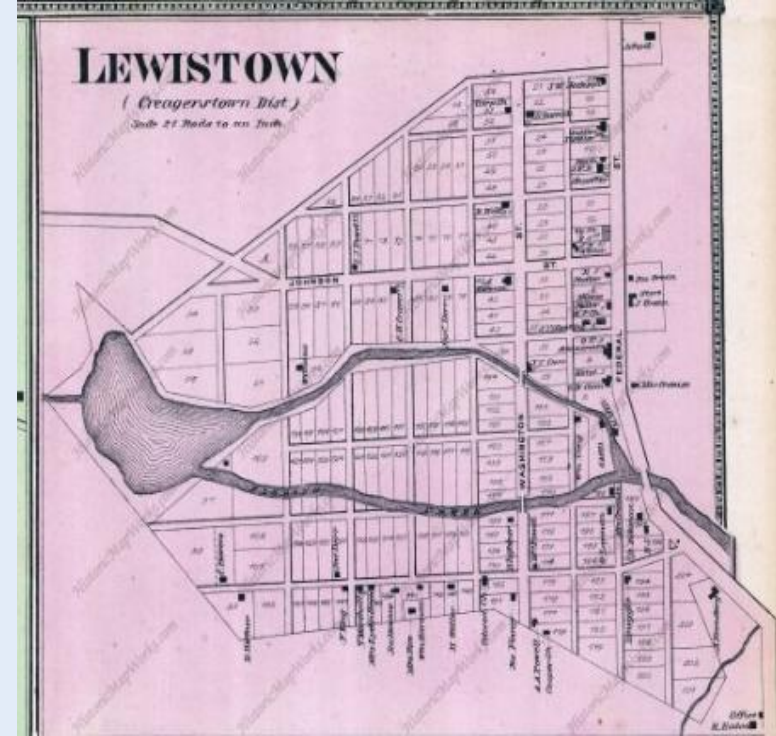


**CLEM HOTEL  
CIRCA 1830**



# Meeting topics:

- Introductions
- Sanitary Surveys in Lewistown
- Water and Sewerage Plan
  - new sewer service area
  - sewer classifications for future, VOLUNTARY connections
- Wastewater Treatment Plant expansion
  - timing
  - capacity
- Construction of sewage collection/conveyance lines
  - individual grinder pumps



1873 TITUS ATLAS

- Construction of sewage collection/conveyance lines
  - individual grinder pumps
- Costs/financing of project & service connections to public sewer lines
- Questions/Answers









# LEWISTOWN 2013 SANITARY SURVEY

## Sewer Needs Assessment



**Blue –**

**No area for repair/  
failing system**

**Red -**

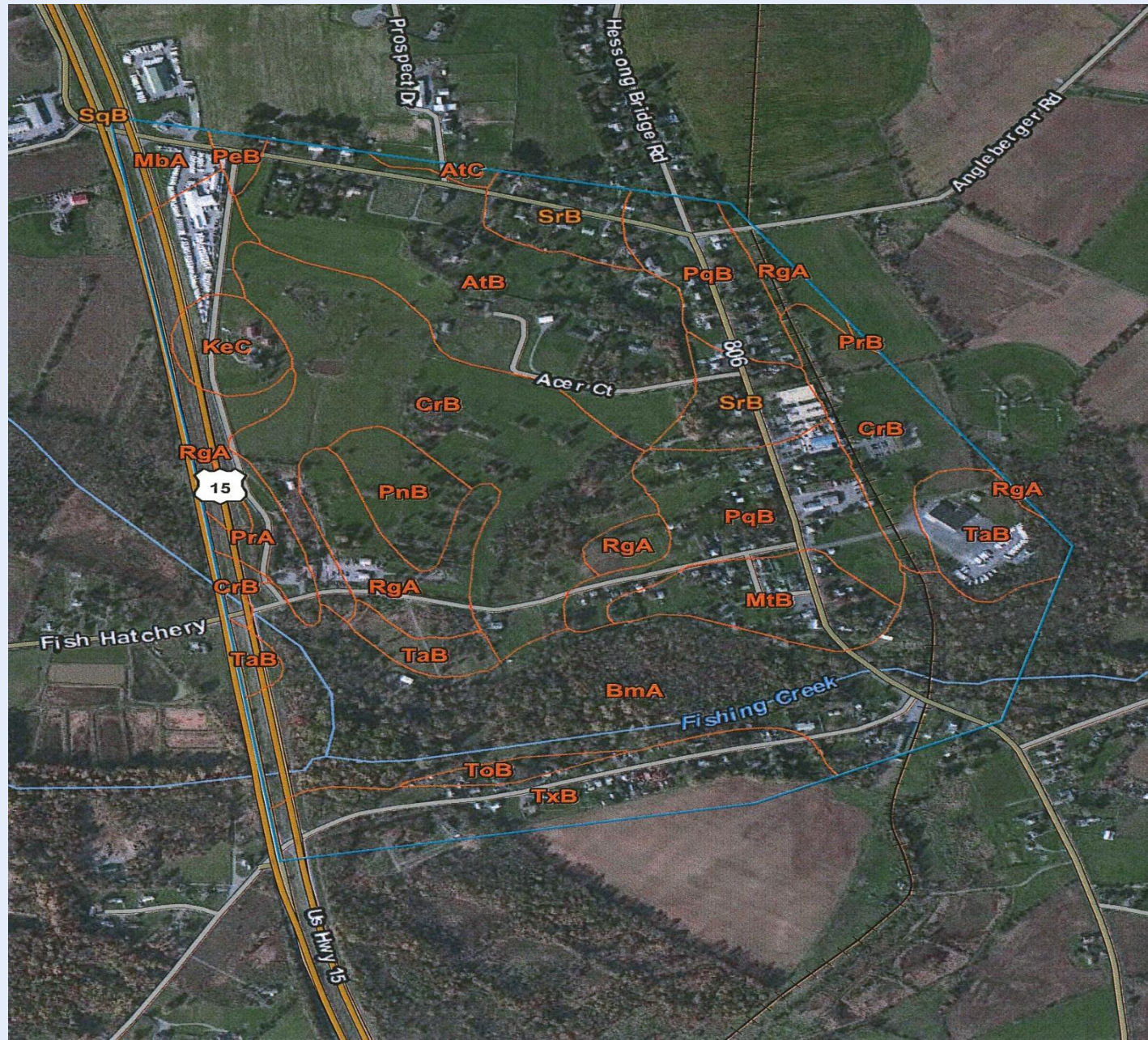
**No area for repair/Using  
holding tank**

**\*Includes records review  
of improved properties**





# Soil types -- Lewistown



<b>soil type</b>	<b>Drainage class</b>	<b>depth to water</b>	<b>Hydrologic soil</b>	<b>Percent in study area</b>
Athol gravelly loam (AtB & AtC)	well drained	80 inches	B	14.7
Bowmansville-Rowland silt loam (BmA)	poorly drained	12 - 18 inches	C / D	21.4
Croton-Abbottstown silt loam ( CrB)	poorly drained	0 - 6 inches	D	18.1
Klinesville very channery loam (KeC)	well drained	80 inches	D	2
Morven loam (MbA)	well drained	80 inches	B	0.7
Murrill-Dryrun-Urban land (MtB)	well drained	80 inches	B	4.2
Penn channery and silt loams (PeB & PnB)	well drained	80 inches	B	3
Penn-Reaville silt and Urban land (PqB & PrA)	well drained	80 inches	B	13
Readington silt loam (RgA)	moderately well	18 - 36 inches	C	8
Springwood-Morven-Urban land (SrB)	well drained	80 inches	C	5.1
Thurmont gravelly loam (TaB)	well drained	48 - 72 inches	B	1.5
Trego gravelly loam & Foxville complex ( ToB & TxB)	moderately well	18 - 36 inches fragipan 20-30 inches	C	8.3



# **1994 and 2013 Health Department Sanitary Surveys**

- **Septic System failures**
- **Use of holding tanks**
- **Lack of system repair/replacement area**

**1994 Survey: 65% response rate**

**2013 Survey: 40% response rate**

**Survey results presented to Board of County Commissioners on June 19, 2014 with a recommendation to further explore details for providing a public sewer system for the Lewistown Community**





# Advantages to consider for Public Sewer Connection

- Improved groundwater and drinking water quality
- Cost and financing of septic system repairs
- Holding tank cost and effect on property value
- Permitting additions
- Timing and funding





# Water and Sewerage Plan

- Required by Maryland Department of the Environment
- Policies & procedures for the provision of public water/sewer service, and connections to the public system
- Identifies Service Areas and assigns a water/sewer category to each property in the County
- Addresses health emergencies/problem areas

## WATER AND SEWERAGE PLAN

*Frederick County, Maryland*

### ADOPTED PLAN

November 6, 2014

*Revised May 1, 2015*

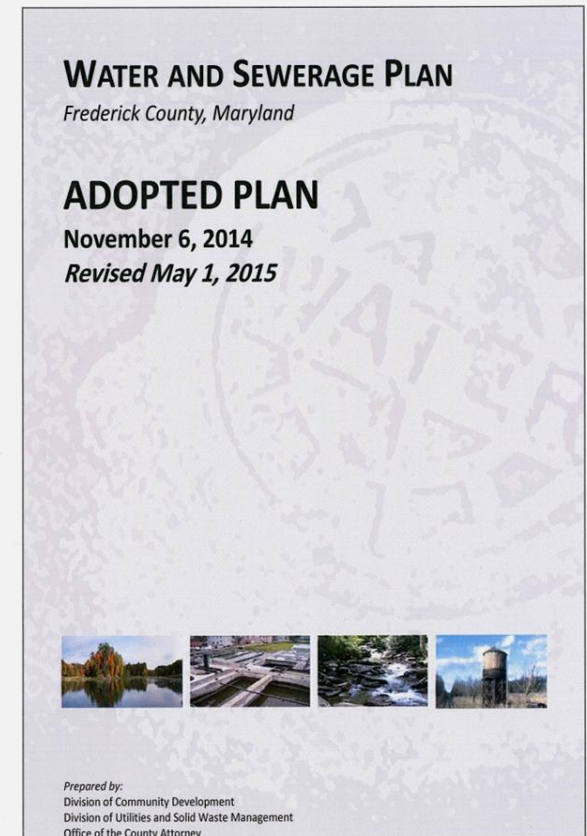


Prepared by:  
Division of Community Development  
Division of Utilities and Solid Waste Management  
Office of the County Attorney




# Proposed Lewistown Sewer Service Area

- **Sewer Service Area Identified**
  - focused on existing residences
- **Sewer classifications applied to each property within service area**
  - \* **Planned Service (PS) (11-20 yrs)**
    - \* **S-5** (7-10 yrs.)
    - \* **S-1** (existing service)
- **Prioritizes 'core area' along Hessong Bridge Road for initial connections**
- **Water/Sewerage Plan changes establish framework for entire project**
  - public hearings
  - funding opportunities
  - construction

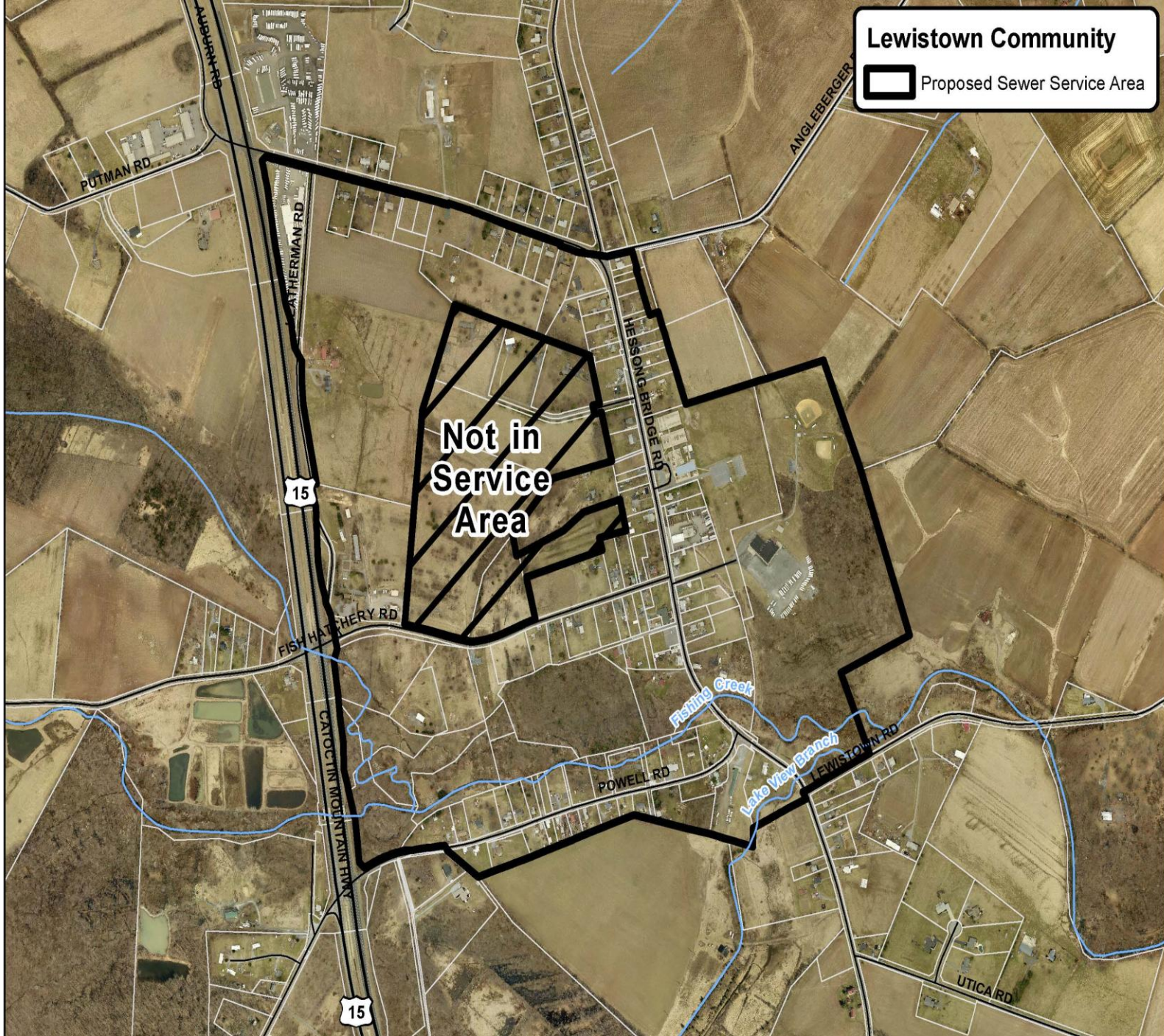




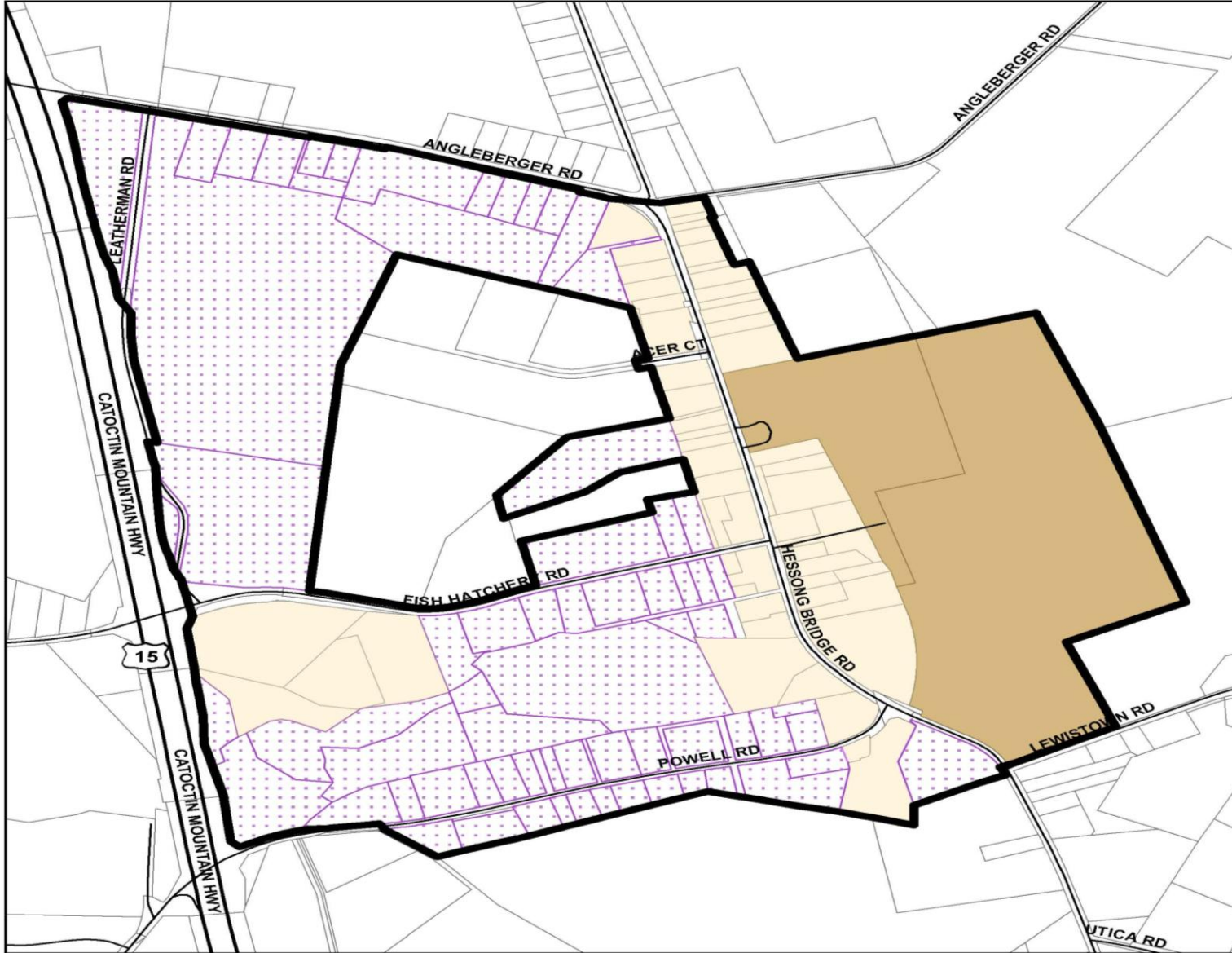
# Lewistown Community

 Proposed Sewer Service Area

Not in  
Service  
Area







# **Lewistown Sewer Service Plan** Frederick County, Maryland Division of Planning and Permitting



January 19, 2016  
Frederick County GIS

- Service Area Boundary
- S-1, Existing Service
- S-5, 7-10 Years
- PS, Planned Service
- NPS, No Planned Service

0 0.05 0.1 0.2  
Miles

Projection: NAD 1983 State Plane Maryland FIPS 1900 Feet  
While efforts have been made to ensure the accuracy of this map, Frederick County accepts no liability or responsibility for errors, omissions, or positional inaccuracies in the content of this map. Reliance on this map is at the risk of the user. This map is for illustration purposes only and should not be used for surveying, engineering, or site-specific analysis.

00092







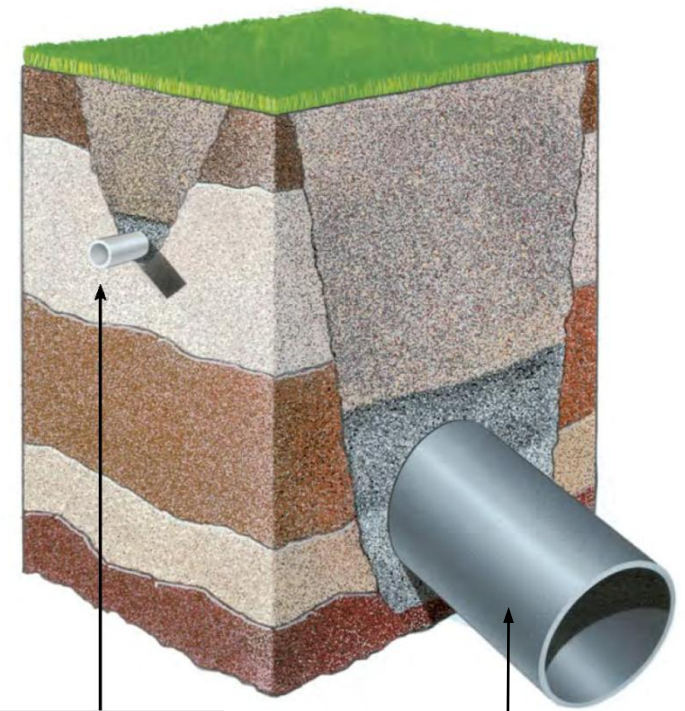
Properties identified by Health Department as no area for repair or using a holding tank

Property of the Lewistown Elementary School and Volunteer Fire Company already connected to the wastewater treatment facility (WWTF)

Conceptual alignment of a low pressure sewer system using individual grinder pumps by the County; preliminary estimate is between \$519K and \$735K

Conceptual alignment of a low pressure sewer system using individual grinder pumps by Agreement by others





1.5" to 4" diameter,  
low pressure sanitary  
sewer installed to  
follow the contour of  
the land, typically 42"  
(3.5') deep

8" diameter gravity  
sewer depths vary,  
typically 8' to 10'  
feet, but oftentimes  
greater to ensure  
positive "downhill"  
flow





**The County's existing Lewistown WWTF is now almost 50 years old. The preliminary estimated cost to replace this facility is between \$0.96 million and \$1.2 million and would be entirely funded by the County DUSWM.**

**The WWTF's NPDES permit has a 22,000 GPD discharge. Recently, by Agreement, the County has consolidated a separate NPDES permit that provides a total discharge capacity of 27,000 GPD. Furthermore, to possibly receive credit for removing existing septic systems the flow must be conveyed to a BNR/ENR treatment level facility. In order to meet ENR requirements, a total nitrogen reduction to 3.0 mg/l and a total phosphorus reduction to 0.3 mg/l, or less, is needed. At a maximum WWTF capacity of 27,000 GPD, with the necessary ENR upgrades, can only provide between **108 and 135** equivalent dwelling units (EDUs), including the Lewistown Elementary School and Fire Company, which currently rely on the WWTF.**





# Lewistown Elementary School Wastewater Disposal Facility

Septic Tank Sys.

Pump House

Surge Tank &  
Distribution Box

{Sand Filter}

UV & Post Air



The preceding preliminary cost estimates were prepared without the benefit of engineering.

Generally, the cost of a sewerage collection system is paid by those customers benefitting from its installation.

DUSWM establishes a benefit assessment for each property that abuts the sewerage system in accordance with the Public Local Laws § 2-13-5(a): “...[T]he county shall construct any such system or extension thereof only after a public hearing held by the board, after giving notice thereof in one newspaper of general circulation published in Frederick County at least seven (7) days prior to the hearing. At the hearing, a description of the proposed improvements shall be presented together with the estimated costs thereof and estimated revenues to be derived therefrom...”

This meeting does NOT establish a start to this process.



## **What is a “benefit assessment”?**

**A benefit assessment is an annual charge placed or levied upon a property in an amount which corresponds to the benefit which takes effect to the property that abuts the construction of sewer (or water) infrastructure.**

### **Items typically included in a benefit assessment calculation:**

**Sewer lines (mains)**

**Sewer lateral and cleanout or service valve assembly**

**Water lines (mains), if water was being installed**

**Water lateral and meter vault, if water was being installed**

**Engineering**

- Design**
- Construction Management/Inspection**
- Project Management**





**It is important to note that it is too early to calculate what a potential benefit assessment (BA) may be for properties that abut the conceptual low pressure sanitary sewer system.**

**As an example, assuming the sewer system costs (and does not include the WWTF improvements) are \$735,000 and the line directly abuts 50 properties, the BA could be:**

$$\text{\$735,000} \div 50 = \text{\$14,700}$$

**BAs are established with a quarterly repayment schedule that can be 10, 15, 20 or even 30 years at a fixed interest rate.**

**Any possible funding assistance available from MDE or Health Department will reduce the total cost of the sewerage collection system.**



Using the previous example, assuming the sewer system costs (and does not include the WWTF improvements) are \$735,000 and the line directly abuts 50 properties; however, the Health Department is able to provide the County up to \$100,000 per year for 5 years, the BA could be:

$$(\$735,000 - \$500,000) \div 50 = \$4,700$$

It is very important to note that such an example expects at least five (5) homes per year to connect to the sewer system (at \$20,000 per home of MDE available funding).

These examples are intended to be VERY BASIC and do not include the costs for proper abandonment of septic and holding tanks.





**Not all properties are expected to connect immediately. Some on-site disposal systems (OSDS), i.e., septic systems, may last a very long time and the need to connect to the sewer system may be deferred and is voluntary.**

**In those instances, a future expense to install a grinder pump, and abandon the OSDS can occur. At that point, without a sanitary sewer system available, the property owner would have had a few choices.**

- **Install a new replacement OSDS, assuming there is adequate reserve area for same**
- **Install an alternative OSDS, as approved by the Health Department**
- **Install a holding tank, if no other options were available**



**DUSWM believes that securing adequate grant funding, which will reduce the cost of the sewerage collection system to a level acceptable to the community, will be necessary for the project to proceed.**

**The County cannot formally request grant funding for the project until the County's Water and Sewerage Plan is amended to show a sewer service area for the Lewistown area.**

**Even after the sewer service area is established, it may be several years before State and or Federal Grant funding can be secured to lower the cost of the project. It is possible that such funding cannot be obtained at all, in which case the community will continue to rely on OSDS indefinitely.**

**Unless the majority of the community is satisfied with their portion of the cost of the project, only a portion of the collection line will be constructed, based on available grants or project funding from other sources.**





# **Funding Availability from the Bay Restoration Fund**



- **Frederick County receives a yearly grant from the Bay Restoration (Septic) Fund Program for upgrading septic systems with BAT (Best Available Technology).**
- **Eligible projects are prioritized as follows – Repairs to failing systems, upgrades to non-conforming systems, new construction.**
- **Funds are also available to be used for sewer connections .**
- **Plan is to make available \$ 100,000 per year for five years as initial funding for connections in Lewistown (5 connections per year X 20K per connection); subject to obtaining a Priority Funding Area exemption from the State Smart Growth Coordinating Committee.**

## SEWER – Residential *WITHOUT* Frederick Co Metered Water

### Sewer Component # 1 - All accounts

Sewer Ready to Serve Charge                      \$24.00   Multiply per EDU

## Sewer Component # 2 - Service accounts

Wastewater Disposal Charge	\$55.00	Multiply per EDU
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\$79 per quarter, or  
\$316 per year\*\*

## SEWER-Non-Residential *WITHOUT* Frederick Co Metered Water

### Sewer Component # 1 - All accounts

Sewer Ready to Serve Charge \$24.00 \* For unimproved lots multiply per EDU

\* For improved lots multiply per EDU (as weighted by (the Capacity Adjustment Factor based on Customer Business Type))

## Sewer Component # 2 - Service accounts

Wastewater Disposal Charge	\$95.00	Multiply per EDU (as weighted by the Capacity Adjustment Factor based on Customer Business Type)
----------------------------	---------	--

**\*\*FY 2016 Rates; subject to change**

**All DUSWM customers are part of a consolidate rate structure, which means, everyone pays the same rate regardless of where the property is located.**





# Questions?

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**Jim Gugel, Planning Department 301.600.1144**  
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**Rod Winebrenner, Utilities & Solid Waste Mngt**  
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**Michael Marschner, Office of County Executive**  
[mmarschner@frederickcountymd.gov](mailto:mmarschner@frederickcountymd.gov) **301.600.1133**

